

# **Introduction**



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## **Introduction To The Teacher's Guide**

This is a collection of information and suggested learning activities for teachers and students. It is intended to enrich the experience of their visit to Bonneville Dam and increase their understanding of the Corps of Engineers.

### **How This Guide Is Organized**

This packet is the second in a series of two packets. It is designed for grades 5, 6, 7 and 8. The first packet is targeted at grades 1, 2, 3 and 4.

To serve as a supplement to school curricula, the TEACHER'S GUIDE has been divided according to subject. Topics covered include: The Corps of Engineers, Hydropower, Navigation and the Navigation Lock, Natural Resources Management (including anadromous fish), and Recreation.

Each subject area provides factual information on that topic and at least two suggested activities to be implemented before, during, and after your visit. With this information, you will be able to design a tour to meet your individual needs.

Although many of the included activities are designed for specific locations and segments of your visit to Bonneville Dam, with slight modifications they can also be used in a classroom setting. Additionally, this TEACHER'S GUIDE can be used as an information resource.

### **Planning A Visit To Bonneville Dam**

In planning your visit to Bonneville Lock & Dam Project, there are several decisions you must make. You must determine: if you want assistance from the Visitor Center staff; what subjects are of most interest; and what facilities at the project you will visit.

Visiting Bonneville Dam on your own for the first time can be somewhat overwhelming! There is much to be seen and shown to your students. For that reason, trained Corps of Engineers staff members are available to take you on special group tours. Once you have an idea of how to get around the Project, then you can create and lead your class tours.

If you plan to utilize the staff to lead your tour, we recommend that you contact the visitor center at least one month in advance to make a reservation for your group. If you plan to visit during the spring, which is one of the busiest school group seasons, you should call several months ahead to reserve the specific day you have in mind.

The reservation number is (541) 374-8820

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When you call, please have the following information ready:

1. \_\_\_\_\_ The date of your visit to Bonneville Dam. (have several possible dates to avoid a second call if there is a scheduling conflict.)
2. \_\_\_\_\_ Which visitor facilities you would like to visit. (see pages 2 and 4 in this guide for a listing)
3. \_\_\_\_\_ How much time you will have to spend at the dam and how long your tour should last.
4. \_\_\_\_\_ The name of your school or organization.
5. \_\_\_\_\_ The name of the person in charge of the group and their phone number.
6. \_\_\_\_\_ The number of people in your group, their age or grade level, and how many supervising adults will accompany them.
7. \_\_\_\_\_ Which subject you'd like to emphasize during your visit. This includes details of any specific activities you would like or special assistance you will require.

## **Facilities At Bonneville Dam**

Once you have determined the date of your visit and whether or not you will personally lead the tour, it is important for you to consider which area of the project you would like to visit. This will depend mostly on the subjects you wish to emphasize during your visit. Although visitor center staff can assist you with this decision, this brief listing of facilities at Bonneville Dam and what subjects are most suited to each area may help.

### **Facilities Accessible From 1-84 Exit 40 (Oregon) The Bradford Island Visitor Center.**

This five-story visitor center contains exhibits about the natural and cultural history of the region; a multi-image theater where several films and slide shows are available; fish ladders; underwater fish ladder viewing; a small picnic area; snack machines and restrooms. A series of ramps, walkways, and elevators make this site accessible to people with disabilities.

#### **Navigation Lock.**

View the lock from the south side of the lock. Signs will direct you to the appropriate parking area. From this vantage point, you can watch a tug and barge going through the lock. Although there is no guarantee when a boat may go through, there are lockages every day. There is access for people with disabilities.

#### **First Powerhouse.**

Reached from the Bradford Island Visitor Center, the First Powerhouse Viewing Gallery provides a view of the generators. Informative exhibits are also found in this visitor area. If you are specifi-

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cally interested in the production of electricity, you should consider visiting the Second Powerhouse on the Washington shore, where visitor areas have been created to allow you to safely walk on top of a running generator. A series of ramps, walkways, and elevators make this site accessible to wheelchairs.

### **Spillway.**

Although automobiles and pedestrians are not permitted on the spillway, it may be viewed from the Bradford Island Visitor Center.

### **Bonneville Fish Hatchery.**

Operated by the Oregon Department of Fish and Wildlife, the hatchery highlights include the Hatchery Operations Building where salmon are processed; rearing ponds for young salmon; and ponds where live sturgeon and trout may be viewed and fed. For hatchery tours call 541-374-8393

### **Picnic Facilities And Restrooms.**

Both may be found at the Bradford Island Visitor Center and the Bonneville Fish Hatchery.

### **Sternwheeler Cruises.**

During summer months, the Sternwheeler, operated by the Port of Cascade Locks may be boarded at the dock near the Bradford Island Visitor Center parking lot. For schedules and reservations contact the Port of Cascade Locks, Oregon at 541-374-8619

### **Public Telephone.**

Telephones are located at the Bradford Island Visitor Center and the Bonneville Fish Hatchery.

## **Facilities Accessible From Highway 14 (Washington) Second Powerhouse Interpretive Complex.**

### **Facilities include:**

**The Visitor Orientation Building** contains a visitor information desk, exhibits about the project, restrooms and snack area. The second powerhouse is reached from this building. This entire complex is accessible to wheelchairs.

**The Second Powerhouse** provides a setting for students to learn about and experience how hydropower is generated. Highlights include a display gallery and access to the actual generators. A self-guiding loop route to public areas is marked throughout the powerhouse.

**The Fish Viewing Building** provides an opportunity to see into the fish ladders used by adult salmon in their upstream migration. Exhibits about fish and the history of Columbia River salmon fishing provide students with information about the life cycle of the migrating salmon.

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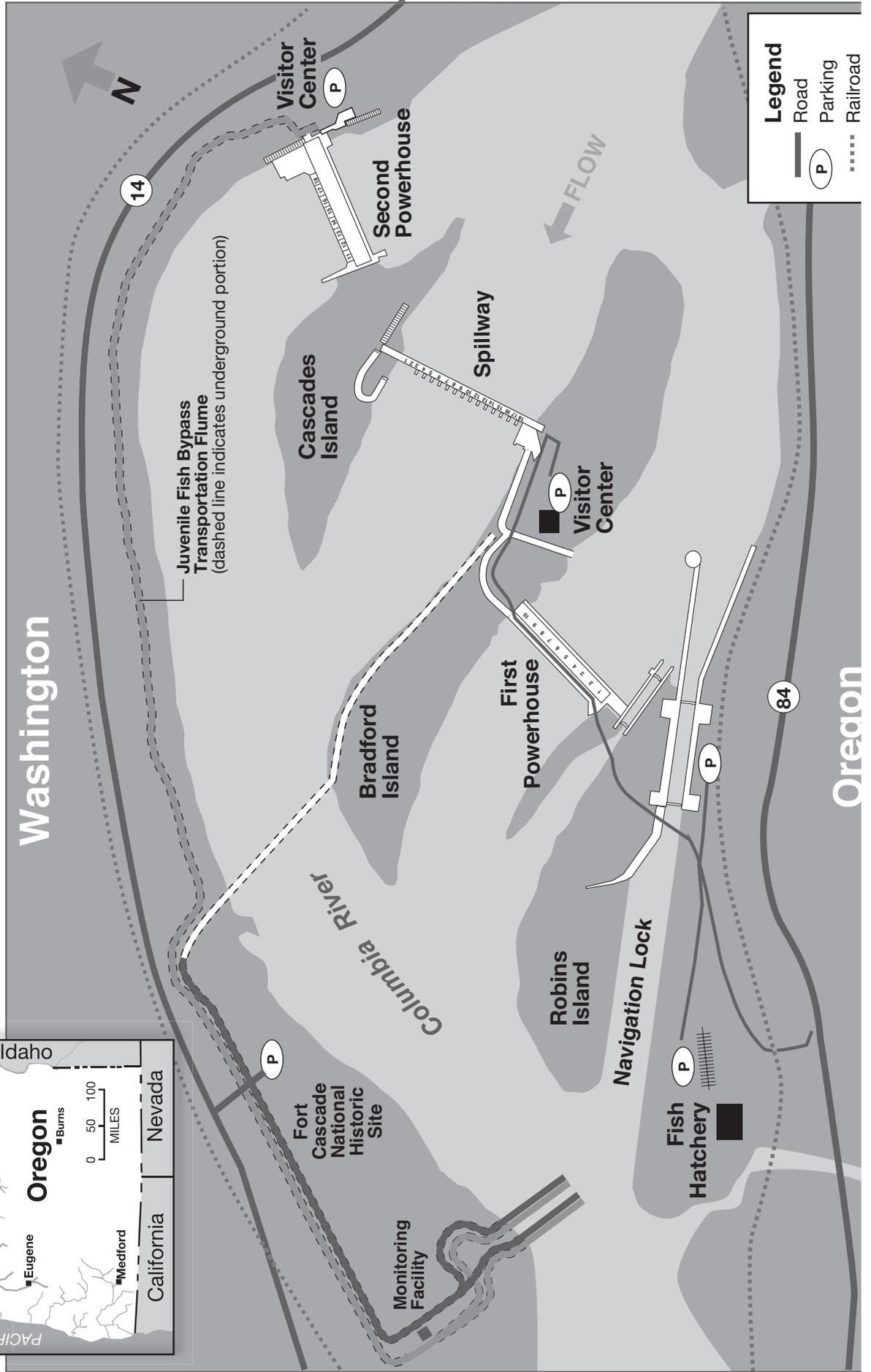
**Picnic Facilities And Restrooms.**

Please ask at the information desk about picnic areas currently open. Restrooms are located inside the Visitor Orientation Building, the Powerhouse, and the Fish Viewing Building.

**Fort Cascades historic Trail**

Hike a mile-long self guided trail to explore the history of this area

# Bonneville Lock & Dam





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## Teachers Checklist

The following checklist may help to organize your trip to Bonneville Dam.

- 1.. Have you contacted the visitor center staff to make a reservation? (see “Planning a Visit,” page 1)
2. Have you reviewed all of the pre-trip activities with your group?
3. Have you decided which on-site activities you will use at the dam? Will you conduct these or have you arranged for assistance from the visitor center staff?
4. Have you looked at the map and the list of facilities and planned your route and schedule?
5. Have you arranged for at least one adult for every 10 children?
6. Have you read the sections about “What to do on the way to Bonneville Dam”? (Ibis information is found in the “During Your Visit” section of each subject.)
7. Have you checked current security restriction?





**Return Address**

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ATTACH  
FIRST  
CLASS  
POSTAGE  
HERE



US Army Corps Of Engineers, Portland District  
Bonneville Lock And Dam Project  
Attn: Visitor Center  
Cascade Locks OR 97014



DETACH HERE

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## **General Adaptable Activities**

Below is a list of general activities which can be adapted to fit almost any subject area. You can use these activities in addition to the two site-specific activities provided within each subject area.

### **Watch An Audio-visual Program.**

The Bradford Island Visitor Center has a large selection of films and slide shows which relate to the many responsibilities of the Corps of Engineers at Bonneville Lock and Dam. Programs range from 5 to 25 minutes in length. Although our film library may vary from year to year, we normally have programs covering a variety of topics, including: the Pacific Salmon, the building of Bonneville Lock and Dam, the Lewis and Clark journey, etc. "The Lorax" (a Doctor Sues presentation) can be a fun way for the children to learn about conservation. If you are interested in seeing a movie during your visit, it is best to make arrangements with the Visitor Center Staff so they can help you select the most appropriate show for the subject you will emphasize and the age of the group.

### **Make A Collage.**

This activity is excellent before or after your visit. If used before your visit, have your students bring in pictures related to the subject; have an art project and discussion while cutting out objects in the classroom; or have your students draw pictures themselves to be put together in a class collage. Students can also create individual collages representing their personal ideas about the topic. If used after your visit, have your students create a collage from the brochures that they collect during their visit. Visitor center staff can give a packet of brochures to each student if this is arranged prior to your visit.

### **Create Your Own Mobiles.**

Like the collage activity, making class or group mobiles can be done before or after your visit. Again, materials necessary for the activity may be cut from magazines, drawn by the students, or collected during their visit to the dam. If your class has access to a camera, photographs can hang from the mobile to recap some of the memorable moments of the visit.

### **Create A Sight And Sound Experience.**

This post-trip activity will stimulate your students' senses and reinforce what they saw at the dam by having them associate the sights and sound of their tour of Bonneville Dam.

To create this activity, you will need a camera and a portable tape recorder. Photograph and record a variety of sights and sound during your tour of the Dam. If a camera is not available this activity can be set up using pictures you cut out from magazines or our web site and have

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mounted on cardboard. Either way, have fun dazzling your student's senses and imaginations. See below for ideas.

### **What To Include In Your Show:**

Use slides and sounds of people, birds and animals, boats, water, generators, construction equipment, or anything else relevant to your theme or subject area. For example, you might use slides and sounds that include:

- ❖ Types of recreational activities enjoyed by people at Bonneville Dam. (anglers, water-ski boats, sails moving in wind, etc.)
- ❖ A Corps ranger helping an injured person. (sounds of the truck, siren, walking ranger with jingling keys, or ranger helping find out how the person is feeling, etc.)
- ❖ A ranger giving someone information. (sounds of the visitor center, telephones ringing, etc.)
- ❖ A ranger going through the daily routine of managing the natural resources of the area. (caring for the Canada geese or the plants, etc.)
- ❖ Someone on a boat telling a friend why they should put on a life jacket.
- ❖ Someone picking up litter. (sound could be garbage blowing in the wind...i.e. a tin can, etc.)
- ❖ The sounds of the generators spinning and the water rushing by.
- ❖ Water moving over the fish ladders (include people making comments about the fish they are seeing)
- ❖ An angler catching a fish. (use sounds of fish thrashing around)

Once you have put together your show, gather the group in a place where slides may be shown. Explain that they are about to hear a sound from their visit and that you would like them to raise their hands once they have identified the sound. After you have discussed what the students think the sound is, show the slide of the object.

### **Hints For Your Film/Sound Debut:**

It is a good idea to leave the screen blank while playing the sounds. Those who are trying to guess the origin of the sound will not be distracted or confused by the image of the last sound producer.

### **Variations:**

To make the exercise a thinking and sound-making exercise for your students, you might also think about having them make the sounds they think of for the pictures that you show.

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## **“News Clipping” Show And Tell.**

Have older students keep track of the current events around the Columbia Gorge by having them cut newspaper clippings about topics associated with area.

## **Have A Spelling Bee.**

Before your visit, you can help familiarize your students with important vocabulary words by having a “Spelling Bee.” You can easily use those words underlined in each of the subject areas IMPORTANT CONCEPTS section. We have found that students who are familiar with these words seem to better understand what they are experiencing during their visit.